

POOL LINING MATERIAL



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Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70

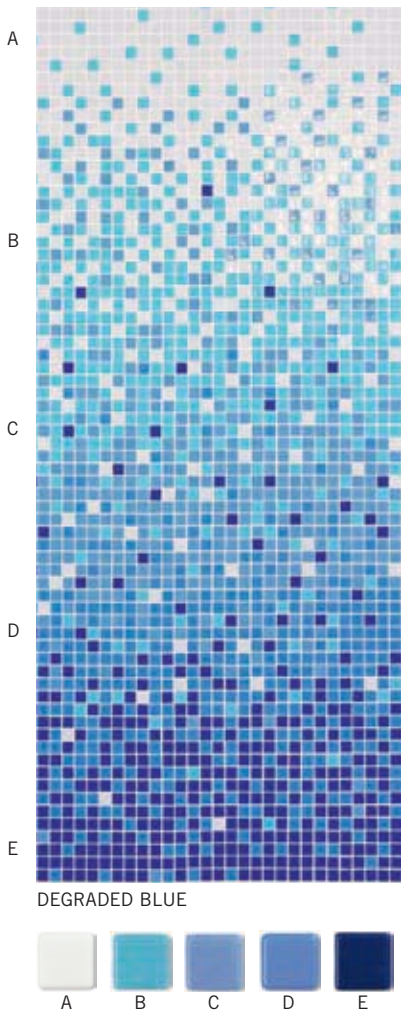
Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

<https://astralpool.nt-rt.ru/> || aow@nt-rt.ru

VITREOUS LINING

Model: SMOOTH



Degraded model using these five colours:

POSITIONS:

A: White - B: Pool Blue - C: Bright Blue - D: Standard Blue - E: Dark Blue.

CUSTOM MADE DEGRADED

Indicate dimensions to recover and the selection of colours to combine for obtaining your customised area.

Check with your distributor.

Pressed and later cooked Vitreous mosaic.

Developed and designed to resist chemical products, frost, stain and other hard weather conditions.

Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration.

TECHNICAL CHARACTERISTICS

UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	5
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	11
UNE-EN ISO	10545-9:1997	Termical shock resistance	Resists
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)
UNE-EN ISO	10545-13:1998	Chemical resistance	Class A resistance

OPTIONS

NOMINAL FORMAT	THICKNESS	PAPER	PLOT	FIBER	POLYURETHANE
25 x 25 mm	4.2 - 4.7 mm	Available	-	-	Available
50 x 50 mm	5.2 - 5.7 mm	-	Available	-	-

FINISHED

	PAPER	PLOT	POLYURETHANE
PAPER: Once applied to wall, paper must be removed.			
PLOT AND POLYURETHANE: Both stuck to the rear side of the mosaic plate. It will remain directly to the support.			

PACKAGING

FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard	2	144	72	18	1316
50 x 50 mm Standard	2	108	54	22	1208

COMBINATIONS 25 x 25 mm

BALEARES WHITE - POOL BLUE	AGUAMARINA WHITE - STD. BLUE - DARK BLUE	MALDIVAS WHITE - STD. BLUE

Possibility of combine other smooth colours. Check with your distributor.

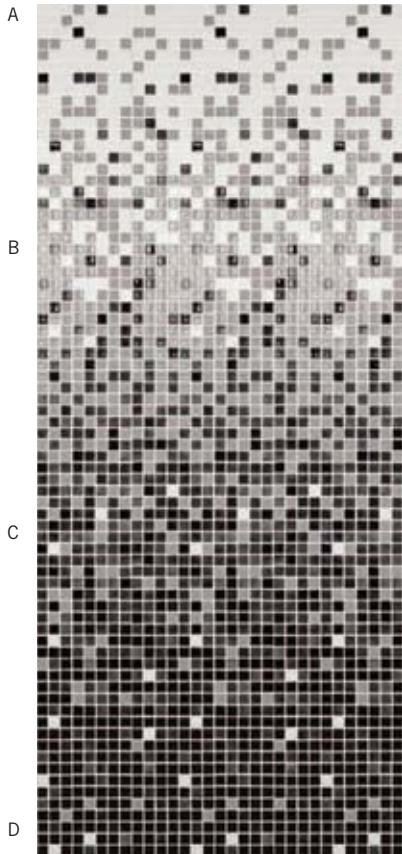
CODES

FORMAT	GREEN-254	VIOLET-270	GREEN-271	BRIGHT BLUE	STD. BLUE	POOL BLUE	DARK BLUE	COBALT BLUE	WHITE	YELLOW	ORANGE	RED	GREY-258	BLACK
25 x 25 mm PAPER	44792	44794	21316	21293	21292	44802	21294	21303	21291	44801	44804	43632	21313	21296
25 x 25 mm POLYUR.	54341	54349	54350	54361	54364	54365	54363	54362	54369	54358	54397	54410	54344	54398
50 x 50 mm PLOT	44999	45002	45003	45011	45014	45015	45013	45012	45016	45010	45018	45027	45001	45019

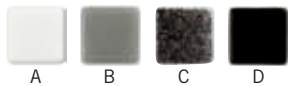
New

VITREOUS LINING

Model: FOG



DEGRADED NIGHT



Degraded model using these four colours:
POSITIONS:
A: White - B: Grey - C: Black fog - D: Black




CUSTOM MADE DEGRADED

Indicate dimensions to recover and the selection of colours to combine for obtaining your customised area.
Check with your distributor.

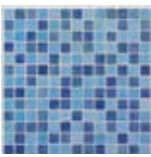
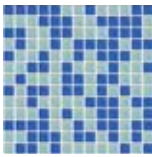
Pressed and later cooked Vitreous mosaic.
Developed and designed to resist chemical products, frost, stain and other hard weather conditions.
Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration.

TECHNICAL CHARACTERISTICS			
UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	5
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	17
UNE-EN ISO	10545-9:1997	Termical shock resistance	Resists
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)
UNE-EN ISO	10545-13:1998	Chemical resistance	Class A resistance

OPTIONS					
NOMINAL FORMAT	THICKNESS	PAPER	PLOT	FIBER	POLYURETHANE
25 x 25 mm	4.2 - 4.7 mm	Available	-	-	Available
50 x 50 mm	5.2 - 5.7 mm	-	Available	-	-

FINISHED	PAPER	PLOT	POLYURETHANE
PAPER: Once applied to wall, paper must be removed.			
PLOT AND POLYURETHANE: Both stuck to the rear side of the mosaic plate. It will remain directly to the support.			

PACKAGING					
FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard	2	144	72	18	1316
50 x 50 mm Standard	2	108	54	22	1208

COMBINATIONS 25 x 25 mm	
 <p>TURQUESA BLUE FOG - DARK FOG</p>	 <p>CARIBE BLUE FOG - POOL FOG</p>

Possibility of combine other foggy colours. Check with your distributor.

CODES									
FORMAT	GREEN-204	VIOLET-210	GREEN-211	BLUE FOG	POOL FOG	DARK FOG	ORANGE FOG	RED FOG	BLACK FOG
25 x 25 mm PAPER	44780	43635	44784	21297	21298	21299	44805	44807	44806
25 x 25 mm POLYURETHANE	54314	54320	54321	54399	54403	54400	54401	54404	54402
50 x 50 mm PLOT	44985	44989	44990	45020	45024	45021	45022	45025	45023

New

VITREOUS LINING

Model: SMOOTH ANTISLIP



Pressed and later cooked Vitreous mosaic.
 Designed for your safety, we introduce this anti slip mosaic.
 Developed and designed to resist chemical products, frost, stain and other hard weather conditions.
 Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration or walk ways. High adherence in wet areas.

TECHNICAL CHARACTERISTICS (CLASS 2)			
UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	6
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	43
UNE-EN ISO	10545-9:1997	Termical shock resistance	Resists
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)
UNE-EN ISO	10545-13:1998	Chemical resistance	Class A resistance

ANTI SLIP TECHNICAL INFORMATION (CLASS 3)			OPTIONAL (ON DEMAND)
	DIN51130:2004 Section 5	Slipery critical angle (Ramp)	R13 (36.2°)
UNE-EN ISO	ISO/DIS 10545-17	DFC (Dynamic friction coefficient)	> 0.75 excellent
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	67

OPTIONS				
NOMINAL FORMAT	THICKNESS	PLOT	FIBER	POLYURETHANE
25 x 25 mm	4.2 - 4.7 mm	-	-	Available
50 x 50 mm	5.2 - 5.7 mm	Available	-	-

FINISHED	PLOT	POLYURETHANE
<p>PLOT AND POLYURETHANE: Both stuck to the rear side of the mosaic plate. It will remain directly to the support.</p>		

PACKAGING					
FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard	2	144	72	18	1316
50 x 50 mm Standard	2	108	54	22	1208

CODES (CLASS 2)

FORMAT	GREEN-254	VIOLET-270	GREEN-271	BRIGHT BLUE	STD. BLUE	POOL BLUE	DARK BLUE	COBALT BLUE	WHITE	YELLOW	ORANGE	RED	BLACK
25 x 25 mm POLYURETHANE	54228	54236	54237	54248	54251	54252	54250	54249	54256	54245	54276	54288	54277
50 x 50 mm PLOT	45806	45809	45810	45818	45821	45822	45820	45819	45823	45817	45825	45834	45826

New

VITREOUS LINING

Model: FOG ANTISLIP





Pressed and later cooked Vitreous mosaic.
 Designed for your safety, we introduce this anti slip mosaic.
 Developed and designed to resist chemical products, frost, stain and other hard weather conditions.
 Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration or walk ways. High adherence in wet areas.

TECHNICAL CHARACTERISTICS (CLASS 2)			
UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	6
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	43
UNE-EN ISO	10545-9:1997	Termical shock resistance	Resists
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)
UNE-EN ISO	10545-13:1998	Chemical resistance	Class A resistance










ANTI SLIP TECHNICAL INFORMATION (CLASS 3)		OPTIONAL (ON DEMMAND)	
	DIN51130:2004 Section 5	Slipery critical angle (Ramp)	R13 (36.2°)
UNE-EN ISO	ISO/DIS 10545-17	DFC (Dynamic friction coefficient)	> 0.75 excellent
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	67

OPTIONS				
NOMINAL FORMAT	THICKNESS	PLOT	FIBER	POLYURETHANE
25 x 25 mm	4.2 - 4.7 mm	-	-	Available
50 x 50 mm	5.2 - 5.7 mm	Available	-	-

FINISHED	PLOT	POLYURETHANE
<p>PLOT AND POLYURETHANE: Both stucked to the rear side of the mosaic plate. It will remain directly to the support.</p>		

PACKAGING					
FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard	2	144	72	18	1316
50 x 50 mm Standard	2	108	54	22	1208

CODES (CLASS 2)

									
FORMAT	GREEN-204	VIOLET-210	GREEN-211	BLUE FOG	POOL FOG	DARK FOG	ORANGE FOG	RED FOG	BLACK FOG
25 x 25 mm POLYURETHANE	54201	54207	54508	54278	54282	54279	54280	54283	54281
50 x 50 mm PLOT	45792	45796	45797	45827	45831	45828	45829	45832	45830

New

VITREOUS LINING

Model: GLOSSY



Pressed and later cooked Vitreous mosaic.
Iridescent effect. Bright and colour variations according to the light exposure.
Developed and designed to resist chemical products, frost, stain and other hard weather conditions.
Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration.

TECHNICAL CHARACTERISTICS			
UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	5
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	11
UNE-EN ISO	10545-9:1997	Termical shock resistance	Resists
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)
UNE-EN ISO	10545-13:1998	Chemical resistance	Class A resistance

OPTIONS				
NOMINAL FORMAT	THICKNESS	PLOT	FIBER	POLYURETHANE
25 x 25 mm	4.2 - 4.7 mm	-	-	Available

FINISHED	POLYURETHANE
<p>POLYURETHANE: Sticked to the rear side of the mosaic plate. It will remain directly to the support.</p>	

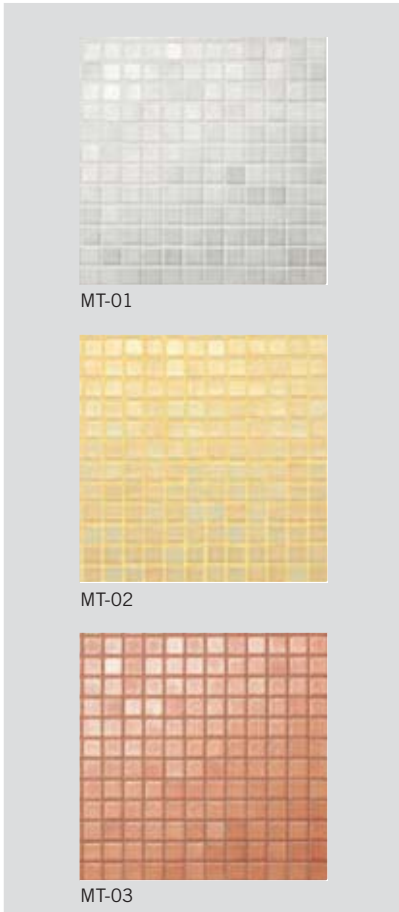
PACKAGING					
FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard	1	144	144	9	1316

CODES												
FORMAT	G-301	G-302	G-303	G-304	G-305	G-306	G-307	G-308	G-309	G-310	G-311	G-312
25 x 25 mm POLYURETHANE	54156	54157	54158	54159	54160	54161	54162	54163	54164	54165	54166	54167

New

VITREOUS LINING


Model: METAL-AIR






Pressed and later cooked Vitreous mosaic.
Iridiscent effect. Metallic finished.
Developed and designed to resist chemical products, frost, stain and other hard weather conditions.
Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration.

TECHNICAL CHARACTERISTICS			
UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	5
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	17
UNE-EN ISO	10545-9:1997	Termical shock resistance	Resists
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)
UNE-EN ISO	10545-13:1998	Chemical resistance	Class A resistance

OPTIONS				
NOMINAL FORMAT	THICKNESS	PLOT	FIBER	POLYURETHANE
25 x 25 mm	4.2 - 4.7 mm	-	-	Available

FINISHED	POLYURETHANE
<p>POLYURETHANE: Sticked to the rear side of the mosaic plate. It will remain directly to the support.</p>	

PACKAGING					
FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard	1	144	144	9	1316

CODES			
			
FORMAT	MT-01	MT-02	MT-03
25 x 25 mm POLYURETHANE	54394	54395	54396

New



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VITREOUS LINING

Model: MOON LUMINISCENT



Pressed and later cooked Vitreous mosaic.
Iridescent effect. After being charged while lights are on, will emit smooth light.
Developed and designed to resist chemical products, frost, stain and other hard weather conditions.
Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration.

TECHNICAL CHARACTERISTICS			
UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	5
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	11
UNE-EN ISO	10545-9:1997	Termical shock resistance	Resists
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)
UNE-EN ISO	10545-13:1998	Chemical resistance	Class A resistance



OPTIONS				
NOMINAL FORMAT	THICKNESS	PLOT	FIBER	POLYURETHANE
25 x 25 mm	4.2 - 4.7 mm	-	-	Available

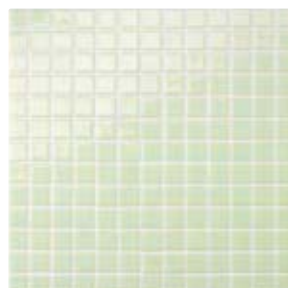
FINISHED	POLYURETHANE
<p>POLYURETHANE: Sticked to the rear side of the mosaic plate. It will remain directly to the support.</p>	

PACKAGING					
FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard	1	144	144	9	1316

CODES

FORMAT	LU-01	LU-02
25 x 25 mm POLYURETHANE	54389	54390

New



VITREOUS LINING

Model: MATTE




Pressed and later cooked Vitreous mosaic. Matte finish.
Developed and designed to resist chemical products, frost, stain and other hard weather conditions.

Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration.

TECHNICAL CHARACTERISTICS			
UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	5
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	17
UNE-EN ISO	10545-9:1997	Termical shock resistance	Resists
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)
UNE-EN ISO	10545-13:1998	Chemical resistance	Class A resistance

OPTIONS				
NOMINAL FORMAT	THICKNESS	PLOT	FIBER	POLYURETHANE
25 x 25 mm	4.2 - 4.7 mm	-	-	Available

FINISHED	POLYURETHANE
<p>POLYURETHANE: Sticked to the rear side of the mosaic plate. It will remain directly to the support.</p>	

PACKAGING					
FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard	1	144	144	9	1316

CODES										
										
FORMAT	MA-01	MA-02	MA-03	MA-04	MA-05	MA-06	MA-07	MA-08	MA-09	MA-10
25 x 25 mm POLYURETHANE	54174	54175	54176	54177	54178	54179	54180	54181	54182	54183

New

POOL LINING MATERIAL

VITREOUS LINING

Model: COLOUR



Cut and coloured glass.

Developed and designed to resist chemical products, frost, stain and other hard weather conditions.

Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration.

TECHNICAL CHARACTERISTICS			
UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	4
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	15
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)

OPTIONS				
NOMINAL FORMAT	THICKNESS	PAPER	PLOT	FIBER
25 x 25 mm	5 mm	-	-	Available

FINISHED	FIBER
<p>FIBER: Sticked to the rear side of the mosaic plate. It will remain directly to the support.</p>	

PACKAGING					
FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard	1	99	99	11,5	1138,5

CODES									
FORMAT	PC-1001	PC-1007	PC-1011	PC-1013	PC-1015	PCMIX-2002	PCMIX-2004	PCMIX-2009	PCMIX-2012
25 x 25 mm FIBER	45063	45067	45070	45072	40821	45054	45056	45061	40823

VITREOUS LINING

Model: STAR




Cut and coloured glass.

Developed and designed to resist chemical products, frost, stain and other hard weather conditions.







Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration.

TECHNICAL CHARACTERISTICS			
UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	4
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	15
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)

OPTIONS				
NOMINAL FORMAT	THICKNESS	PAPER	PLOT	FIBER
25 x 25 mm	5 mm	-	-	Available

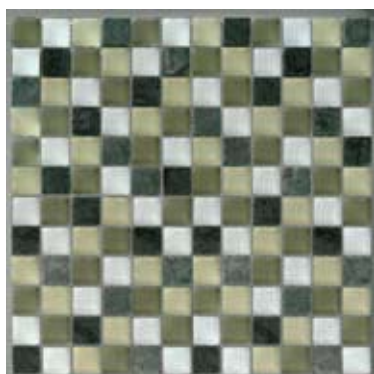
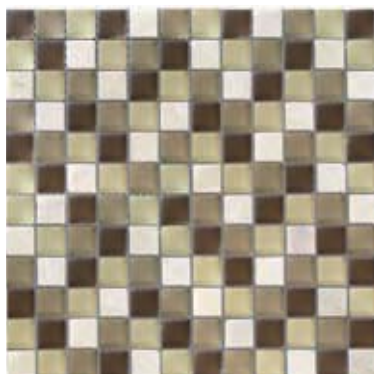
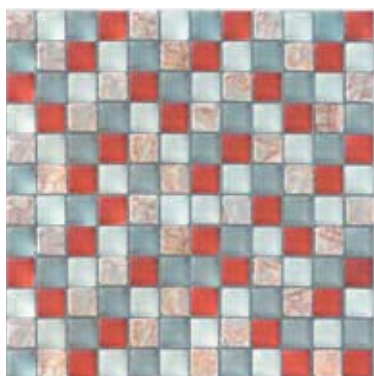
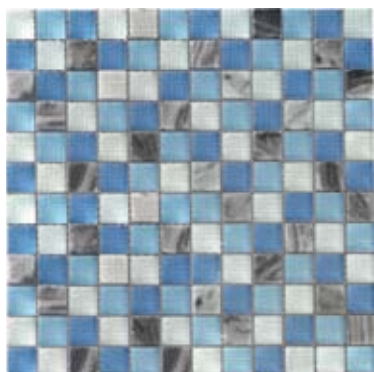
FINISHED	FIBER
FIBER: Sticked to the rear side of the mosaic plate. It will remain directly to the support.	

PACKAGING					
FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard	1	99	99	11,5	1138,5

CODES						
						
FORMAT	PC-3001	PC-3004	PC-3006	PC-3010	PSMIX-4001	PSMIX-4002
25 x 25 mm FIBER	45097	45100	45102	45106	45095	45096

VITREOUS LINING

Model: MARBLE



Cut and coloured glass, mixed up with marble.

Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration.

TECHNICAL CHARACTERISTICS			
UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	4
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	15

OPTIONS				
NOMINAL FORMAT	THICKNESS	PAPER	PLOT	FIBER
23 x 23 mm	8 mm	-	-	Available

FINISHED	FIBER
FIBER: Sticked to the rear side of the mosaic plate. It will remain directly to the support.	

PACKAGING					
FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
23 x 23 mm Standard	1	63	63	16	1008

CODES				
FORMAT	PCMIX-6001	PCMIX-6002	PCMIX-6007	PCMIX-6009
23 x 23 mm FIBER	45076	43626	45081	45083



VITREOUS LINING

Model: FLASH - Digital decoration

Cut and coloured Glass, with **digital decoration**.

Any kind of digital graphic design can be done, keeping all the vitreous mosaic characteristics. High resolution pictures are requested, with a minimum of 2 MB per m².

Any custom made pictures available based on customers requirements.

Developed and designed to resist chemical products, frost, stain and other hard weather conditions.

Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration.

**FLASH
IMPRESSES CUSTOMISED**

We customise your vitreous mosaic with the photograph that you wish.
Minimum requirement 2 MB per m².
Check with your distributor.

TECHNICAL CHARACTERISTICS

UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	5
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	11
UNE-EN ISO	10545-9:1997	Termical shock resistance	Resists
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)
UNE-EN ISO	10545-13:1998	Chemical resistance	Class A resistance

CODE

51749

OPTIONS

NOMINAL FORMAT	THICKNESS
25 x 25 mm	4.2 - 4.7 mm

FINISHED

TRANSPARENT FILM

PACKAGING

FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard	2	144	72	18	131



VITREOUS LINING

Model: PATTERNED BORDERS

Pressed and later cooked vitreous mosaic.

Developed and designed to resist chemical products, frost, stain and other hard weather conditions.

Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration.

NOTE

Patterned borders can be customised with the colours that you wish.
Check with your distributor.

TECHNICAL CHARACTERISTICS

UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	5
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	11
UNE-EN ISO	10545-9:1997	Thermal shock resistance	Resists
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)
UNE-EN ISO	10545-13:1998	Chemical resistance	Class A resistance

OPTIONS

NOMINAL FORMAT	THICKNESS
25 x 25 mm	4.2 - 4.7 mm

FINISHED

Once applied to wall, paper must be removed.

PAPER



PACKAGING

FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard	2	144	72	18	1316
25 x 25 mm Standard-45853	6	432	72	14	1008

CODES

25 x 25 mm	LENGTH X HEIGHT		
22164	300 x 180 mm		<ul style="list-style-type: none"> DARK BROWN CREAM
45851	300 x 180 mm		<ul style="list-style-type: none"> ORANGE DARK BLUE
45852	300 x 180 mm		<ul style="list-style-type: none"> WHITE GREY-258 VIOLET-270
16040	325 x 26 mm		<ul style="list-style-type: none"> POOL BLUE DARK BLUE
45853	300 x 26 mm		<ul style="list-style-type: none"> YELLOW ORANGE VIOLET-270 GREEN 271 RED BLACK
45854	300 x 75 mm		<ul style="list-style-type: none"> RED WHITE BLACK

VITREOUS LINING

Model: STANDARD MOSAIC DESIGNS

Pressed and later cooked vitreous mosaic.


Developed and designed to resist chemical products, frost, stain and other hard weather conditions.

Due to its unalterability, easy clean and installation it is an optimum alternative to recover pools, wellness or outdoor-indoor decoration.

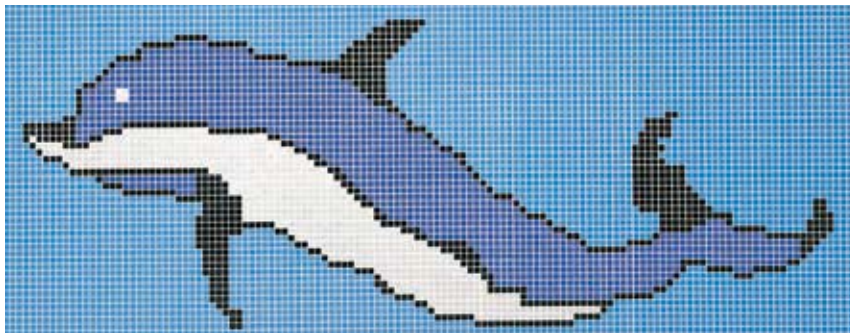


TECHNICAL CHARACTERISTICS			
UNE-EN ISO	10545-3:1997	Water absorption	< 0.1%
	EN-101:1991	Scratch resistance (Mohs)	5
UNE-ENV	12633:2003 Addendum A	Slip resistance (Pendulum)	11
UNE-EN ISO	10545-9:1997	Termical shock resistance	Resists
UNE-EN ISO	10545-12:1997	Frost resistance	Resists
UNE-EN ISO	10545-14:1998	Stain resistance	Class 5 (Hot water)
UNE-EN ISO	10545-13:1998	Chemical resistance	Class A resistance

OPTIONS	
NOMINAL FORMAT	THICKNESS
25 x 25 mm	4.2 - 4.7 mm

FINISHED	PAPER
Once applied to wall, paper must be removed.	

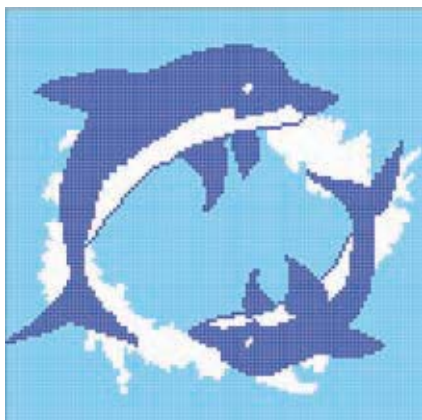
PACKAGING					
FORMAT	m ² /Box	m ² /Pallet	Box/Pallet	Kg/Box	Kg/Pallet
25 x 25 mm Standard					Check with your distributor



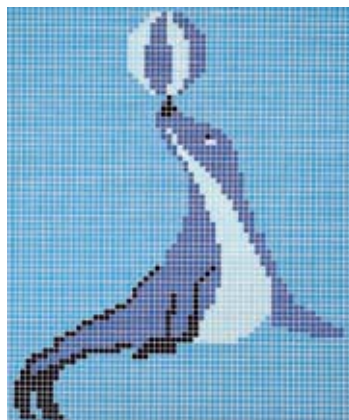
16043 - DOLPHIN 3330 x 1330 mm



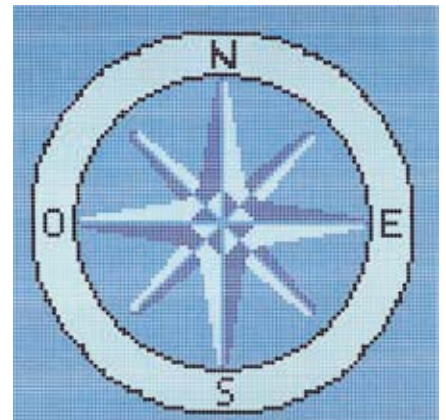
45151 - SUN AND MOON 2000 x 2000 mm



45152 - PLAYING DOLPHINS 3330 x 1330 mm



45159 - SEAL 2000 x 2670 mm



45160 - COMPASS ROSE 2670 x 2670 mm

We reserve the right to change all or part of the features of the articles or contents of this document, without prior notice.

LINER 75/100°

Pool liner 75/100°

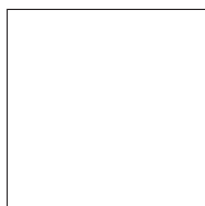
Ideal for residential pools. Manufactured in reinforced PVC-P, this material is the most used for lining pools thanks to enhanced malleability, resistance to tearing, ease of welding, resistance to discoloration by UV rays and with a wide range of available colours.

Made-to-measure liners are put together by high frequency welding machines at our facilities. Perfectly adaptable to any pool design or shape, with excellent watertight features, so you can forget about annoying leaks.

Liner characteristics:

- Manufactured in PVC. We use a fully recyclable polymer made from petroleum and sodium chloride.
- Chemical and mechanical properties are provided by additives that comply with international standards and the Manufacturer's Letter of Commitment. The use of cadmium compounds is currently forbidden and, in 2010, lead-based compounds will be forbidden.
- PVC does not release dioxins into the atmosphere and can be recycled by means of Lindell type degasification. Pool liner is normally reused for technical floor construction
- Resistant and watertight. AstralPool liner is manufactured from highly resistant PVC (0.75 mm thick) that ensures total watertightness for your pool.
- Smooth and pleasant to touch, it is easy to maintain and durable.
- Highly flexible and adaptable.
- Highly resistant to impacts and tearing.

Plain and printed colours for liner 75/100°



White



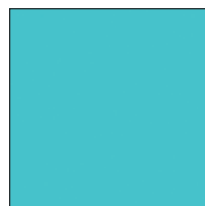
Sand



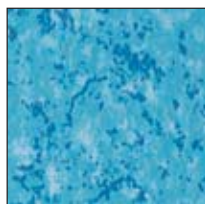
Light blue



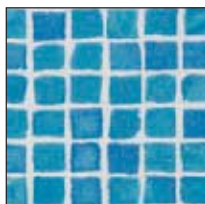
France Blue



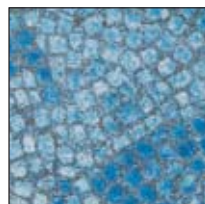
Caribbean Green



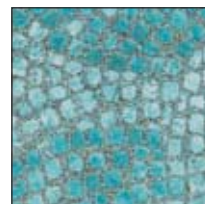
Servanne



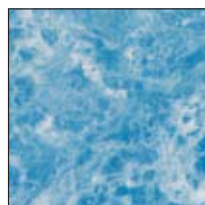
Mosaic



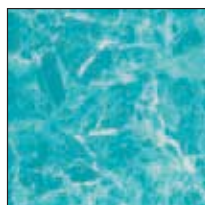
Byzantium blue



Byzantium green



Blue Marble



Green Marble



Sand Marble

Note: Colours in the catalogue are approximate.

Note: Colours in the catalogue are approximate.

LINER 75/100°

Patterned borders 75/100° - Height 24 cm



Pompeii blue



Mykonos blue



Olympia blue



Pompeii green



Mykonos green



Olympia green



Cologne blue



Castile blue



Allegro blue



Cologne green



Castile green



Allegro green



Rocks



Boreal



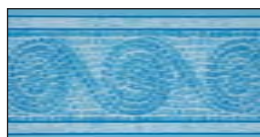
Navalon blue



Florentine



Sebastian



Carthage blue



Carthage ocre



Carthage green

LINER CLASSIFICATION ACCORDING TO POOL

Standard pool liners 75/100°

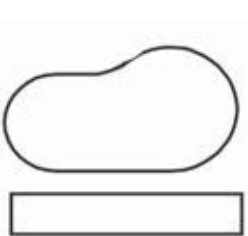
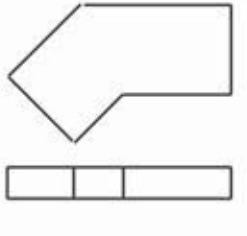
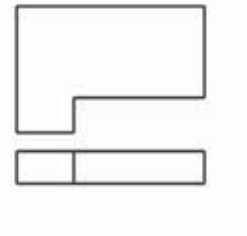
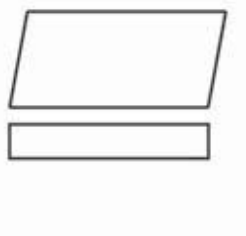
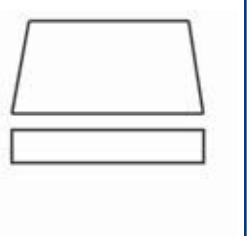

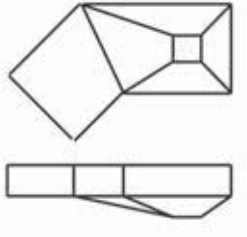
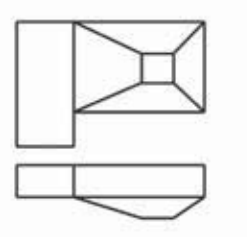
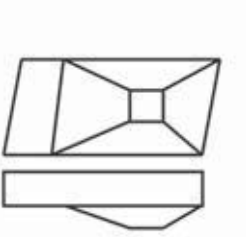
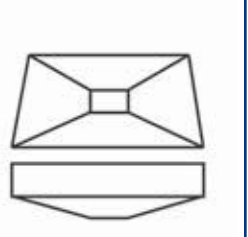
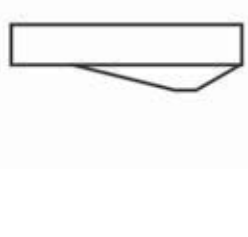
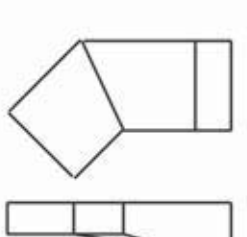
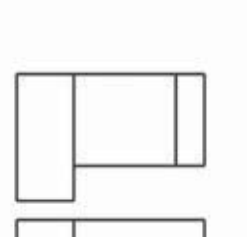
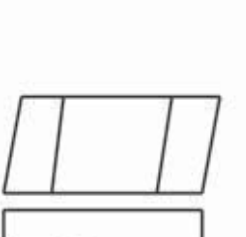
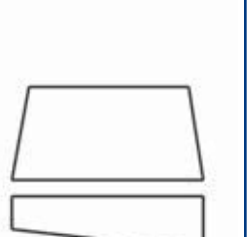
RECTANGULAR			ROUND	OVAL	OVOID SHAPED

Solid colour models		Code
	Light blue	09278
	France blue	09277
	Caribbean green	09281
	White	09279
	Sand	16131

Printed colour models		Code
	Servanne	26668
	Mosaic	09280
	Blue Marble	16132
	Green Marble	16132V
	Sand Marble	16132A
	Byzantium blue	26669
	Byzantium green	26670

LINER CLASSIFICATION ACCORDING TO POOL

Non-standard pool liners 75/100°

KIDNEY	LAZY	POLYGONAL	PARALLELOGRAM	TRAPEZIUM
				
				
				

POOL LINING MATERIAL

Solid colour models		Code
	Light blue	05810
	France blue	05809
	Caribbean Green	05813
	White	05811
	Sand	16137

Printed colour models		Code
	Servanne	26686
	Mosaic	05812
	Blue Marble	16138
	Green Marble	16138V
	Sand Marble	16138A
	Byzantium blue	26678
	Byzantium green	26679

STANDARD LINER CALCULATION METHOD

RECTANGULAR SHAPE, FLAT FLOOR

Floor surface = length (L) x width (l)

Wall surface = (L + L + l + l) x wall height (h)

Total area = Floor surface + Wall surface

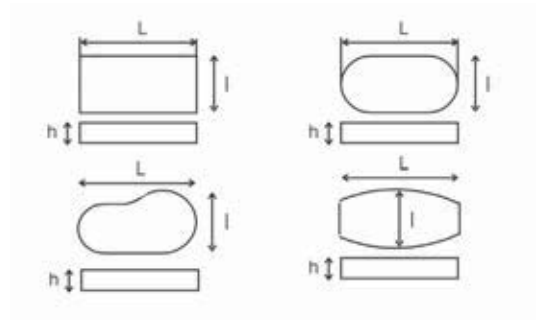
EXAMPLE:

10 x 5 m pool, with a vertical wall height = 1.5 m

Floor area = $10 \times 5 = 50 \text{ m}^2$

Wall area = $(10 + 10 + 5 + 5) \times 1.50 = 45 \text{ m}^2$

Total area = $50 + 45 = 95 \text{ m}^2$



ROUND LINER POOL WITH FLAT FLOOR

Floor area = $\pi \times D^2/4$ ($\pi = 3.14$)

Wall area = diameter (D) x 3.14 x wall height (h)

Total area = Floor surface + Wall surface

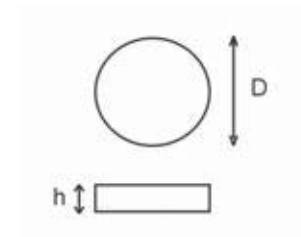
EXAMPLE:

Diameter 6 m round with a wall height of 1.2 m

Floor area = $\pi \times 6^2/4 = 28.3 \text{ m}^2$

Wall area = $(6 \times 3.14) \times 1.20 = 22.60 \text{ m}^2$

Total area = $28.3 + 22.60 = \text{approx. } 50.9 \text{ m}^2$



For round pools with conic floor you can calculate as flan floors and apply a 1.30 coefficient.

RECTANGULAR SHAPE, PYRAMIDAL FRUSTUM FLOOR

Floor area = length (L) x width (l) x 1.30

Wall area = (L + L + l + l) x height of the vertical wall. (h)

Total area = Floor surface + Wall surface

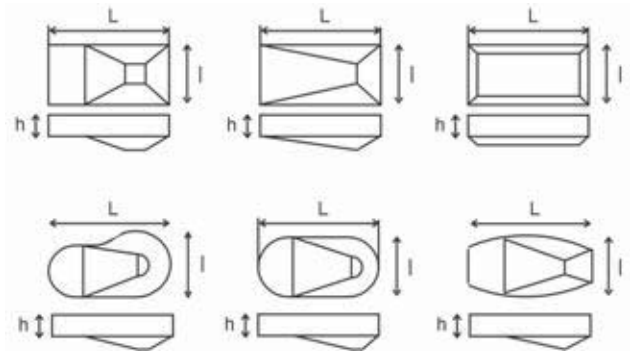
EXAMPLE:

10 x 5 m pool with a vertical wall height of 1.2 m

Floor area = $10 \times 5 \times 1.30 = 65 \text{ m}^2$

Wall area = $(10 + 10 + 5 + 5) \times 1.20 = 36 \text{ m}^2$

Total area = $65 + 36 = 101 \text{ m}^2$



RECTANGULAR SHAPE, COMPOUND INCLINATION OR CONTINUOUS INCLINATION

Floor surface = length (L) x width (l)

Wall surface = (L + L + l + l) x average height $(h_1 + h_2):2$

Total area = Floor surface + wall surface

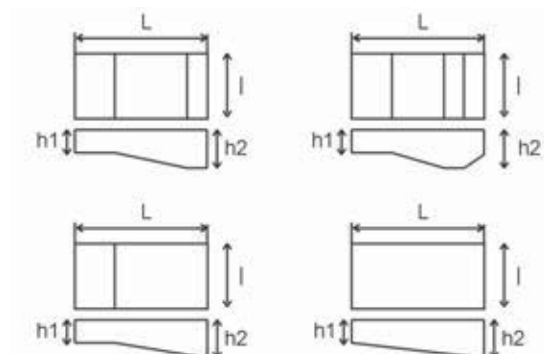
EXAMPLE:

10 x 5 m pool, with a depth of 1.8 m at its deepest part

Floor area = $10 \times 5 = 50 \text{ m}^2$

Wall area = $(10 + 10 + 5 + 5) \times ((1.10 + 1.80):2) = 43.50 \text{ m}^2$

Total area = $50 + 43.5 = \text{approx. } 94 \text{ m}^2$



STANDARD LINER CALCULATION METHOD

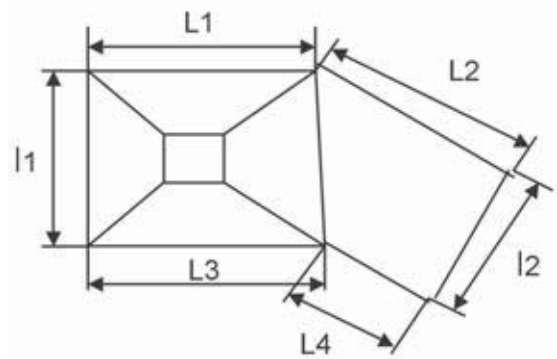
LAZY SHAPE

Floor area = Length (L1 + L2) x longer width (I1) x 1.30
 (Do not multiply by 1.30 if the pool floor does not have a pyramid shape)
 Wall shape = ((L1 + L2 + L3 + L4) + (I1 + I2)) x wall height (h)
 (If the pool floor is inclined, multiply by the average height)
 Total area = Floor area + wall shape

EXAMPLE:

Lazy pool with a pyramidal floor:

L1 = 5 m, L2 = 4 m, L3 = 4 m, L4 = 3 m
 I1 and I2 = 4 m, h = 1.20 m,
 Floor area = (5 + 4) x 4 x 1.30 = 46.80 m²
 Wall shape = ((5 + 4 + 4 + 3) + (4 + 4)) x 1.20 = 28.80 m²
 Total area = 46.80 + 28.80 = aprox. 76 m²



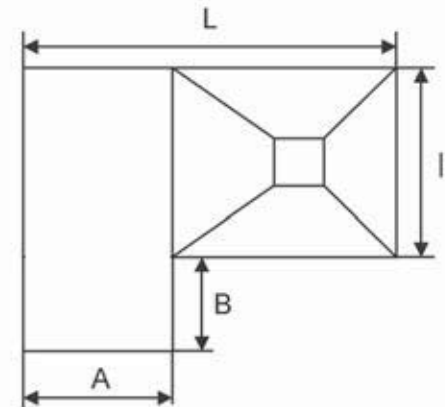
POLYGONAL SHAPE

Floor area = (length (L) x width (I) x 1.30) + (A x B)
 (Do not multiply by 1.30 if the pool floor does not have a pyramid shape)
 Wall shape = (L + L + I + I + B + A) x wall height (h)
 (If the pool floor is inclined, multiply by the average height)
 Total area = Floor surface + wall surface

EXAMPLE:

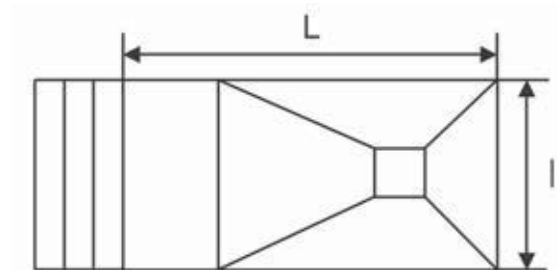
Polygonal shaped pool with a pyramidal floor:

Length = 10 m, width = 5 m, A = 3 m, B = 1.5 m, wall height = 1.10 m
 Pool floor area = (10 x 5 x 1.30) + (3 x 1.50) = 69.50 m²
 Superficie de pared = (10 + 10 + 5 + 5 + 1.50 + 1.50) x 1.10 = 36.30 m²
 Total area = 69.50 + 36.30 = aprox. 106 m²



STAIRS ALONG THE ENTIRE POOL WIDTH

The stairs should not be taken into account for calculating the liner m²
 Add the steps depth for the entire pool side. (see sketch)



STANDARD LINER CALCULATION METHOD

Liners free form pools

Liner models for all kinds of pool shapes requiring triangulation for size calculation.

Solid colours models		Code
	Light blue	16147
	Caribbean green	16149
	White	16150
	Sand	16151

Printed colours models		Code
	Mosaic	16155
	Blue Marble	16152
	Green Marble	16152V
	Sand Marble	16152A
	Byzantium blue	26689
	Byzantium green	26690

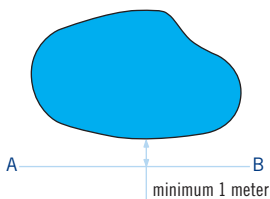
Decoration with patterned borders

Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
16162	-	-	-

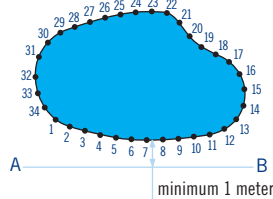
For free shape

Pool triangulation

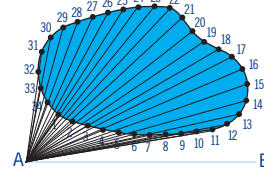
Triangulation is the only reliable way to calculate pool dimensions, regardless of shape. Below we explain the steps to follow in order to obtain exact measurements and pool shape.



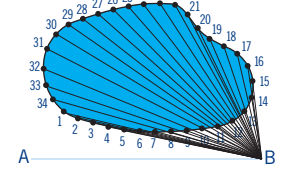
Imagine a straight line alongside the pool. Mark the ends point A and point B. The straight line must be at least one meter from the pool.



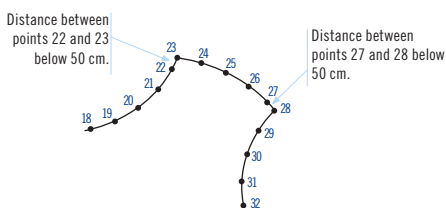
Space the distance indicators every 50 cm and number them as follows: 1, 2, 3, etc. until the entire edge of the pool has been covered.



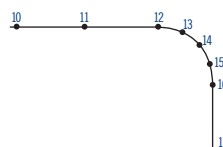
Starting at point A, measure the distance in a straight line from each point marked by a number (e.g. distance from A to 1, from A to 2 and so on).



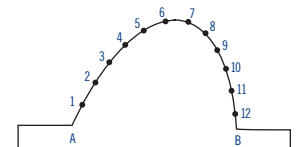
Do as before from point B.



If the pool is not completely round and forms right angles, it is essential you add a point (See example drawing).



When the curves are small, the distance between the points must be reduced so that a minimum of 3 points per arc of circle is obtained.



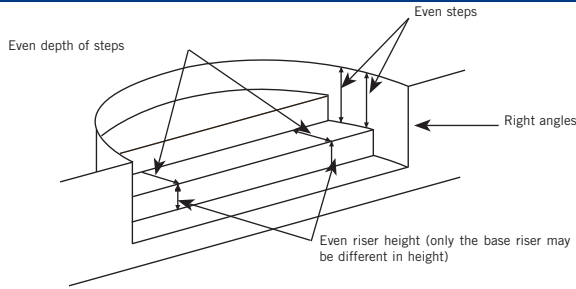
To measure non-geometric steps, place A and B at the base of the steps and proceed as for the triangulation of a free form pool.

LINERS FOR STEPS

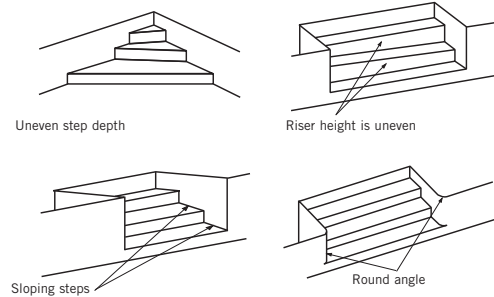
For steps that do not fit the Standard models shown here, request quote.





Below we provide you with the details of the shapes and models you can choose from plain or printed liners to ensure you select the correct liner for your pool steps. Steps that are fitted along the breadth of the basin are invoiced in accordance with the standard model RECTA, as long as the width does not exceed 4 meters. **Attention:** the size of the basin should not include the depth of the steps.





Standard steps



Non Standard steps



Steps		Plain Liner	Plain Liner + Bands	Diagram
Shape	Widths	Code	Code	
Straight	0 to 2 meters	05789	05789B	
	3 to 4 meters	05791	05791B	
Roman	0 to 2 meters	16163	16163B	
	2 to 3 meters	25868	25868B	
	3 to 4 meters	05800	05800B	
Right angle	0 to 2 meters	05803	05803B	
	2 to 3 meters	05804	05804B	
1/4 Circle	0 to 2 meters	16167	16167B	
	2 to 3 meters	089443	089443B	

Steps		Printed Liner	Printed Liner + Bands	Diagram
Shape	Widths	Code	Code	
Straight	0 to 2 meters	05794	05794B	
	2 to 3 meters	05795	05795B	
	3 to 4 meters	05796	05796B	
Roman	0 to 2 meters	16169	16169B	
	2 to 3 meters	05801	05801B	
	3 to 4 meters	05802	05802B	
Right angle	0 to 2 meters	05806	05806B	
	2 to 3 meters	05807	05807B	
1/4 Circle	0 to 2 meters	16173	16173B	
	2 to 3 meters	089446	089446B	

POOL LINING MATERIAL

PVC REINFORCED 150/100° LINER

Codes

New

	Colour	SERIE 2000 1,65 x 25 m	Antislip 1,65 x 20 m
Plain and printed PVC Liner	Light Blue	49908	49923
	Dark Blue	49909	49924
	Green	49910	49925
	White	49911	49926
	Sand	49912	49927
	Grey	49913	49928
	Dark Grey	49914	49929
	Black	49915	49930

	Colour	S/3000 1,65 x 25 m	Antislip 1,65 x 20 m
Mosaic PVC Liner	Blue Bizance	49916	52610
	Grey Bizance	49917	-
	Dark Mosaic	49918	-
	Carrara	49919	52611
	Marbre	49920	-
	Blue Persia	49921	52609
	Sand Persia	49907	-
	Platinum	49922	-

	Colour	
PVC liquid (1 liter container. 6 units/box)	Grey	52618
	Dark Grey	52619
	Green	52620
	Black	52621
	White	52622
	Transparent	52623
	Light Blue	52624
	Dark Blue	52625
	Sand	52626
	Platinum	52627

	Color	
Lanes mark (25 x 0.25 m)	Black	50798

PVC REINFORCED 150/100° LINER

Colours



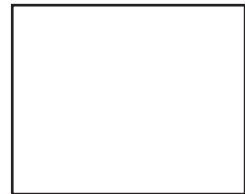
Light Blue



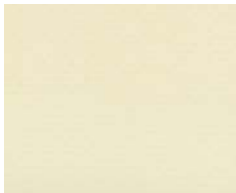
Dark Blue



Green



White



Sand



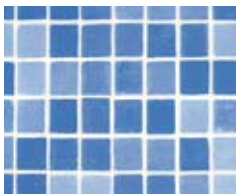
Grey



Dark Grey



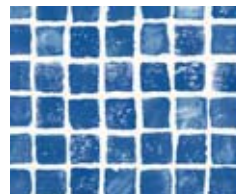
Black



Blue Bizance



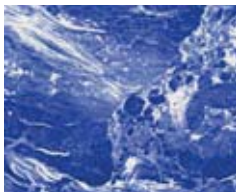
Grey Bizance



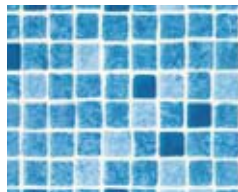
Dark Mosaic



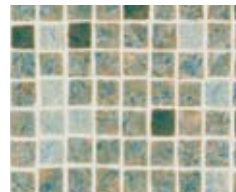
Carrara



Marbre



Blue Persia



Sand Persia



Platinum

LINER INSTALLATION AND FIXING

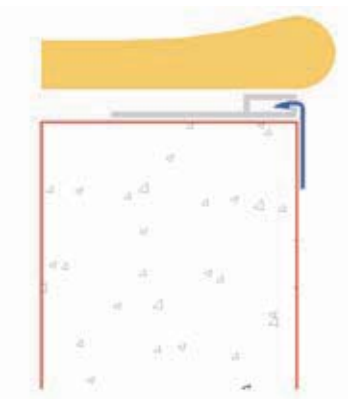
Liner installation

Before laying the liner in the pool, we must bear in mind certain basic factors to ensure good and long lasting life. The floor or surface where the liner is to be laid:

- Must be permeable to ensure removal of condensed water.
- Must be completely smooth to prevent deterioration.
- Must also be free from any material that is incompatible with the membrane: for flexible PVC, avoid using rubber, paint, inks, tar or adhesive materials.
- Must be clean and dry.
- If a separating layer has been used, it must be rot-proof (protection filter).
- Only use bonding products recommended by AstralPool.
- PVC liners have an expansion coefficient of around 0.2% per 10°C. You are recommended to lay the liner at temperatures between 10°C and 25°C.

Fastening system

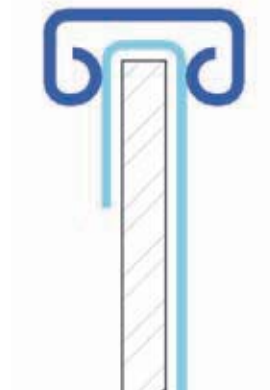
HUNG TYPE FASTENING



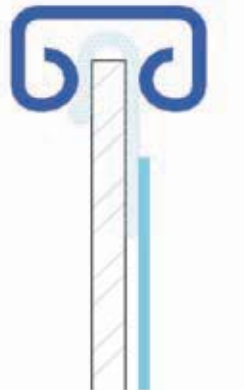
The fastening system varies depending on whether the liner is to be laid in a pool already built or one yet to be built.

In both cases the fastening is compatible for liners of **75/100** and **150/100**.

OVERLAP TYPE FASTENING



V TYPE FASTENING



These are the simplest fastening systems and they have basically been designed for above ground pools steel sheet for home use, requiring a **75/100 liner**. Quick and easy to install, these systems are ideal for liner installation in pools.

LINER FIXING MODIFICATION

If the standard Hung system is substituted by the Overlap or "V" type, neither the calculations nor the price of the liner m² will vary with respect to the standard calculations.

LINER ACCESSORIES

Fastening accessories for liners 75/100° for pools under construction



Horizontal Hung PVC 1.5 m x 50 mm (free form)
 Horizontal hung PVC 2 m x 50 mm
 Horizontal hung PVC 2 m x 38 mm
 Angle PVC radius of 15 cm x 50 mm
 Angle PVC radius of 15 cm x 38 mm

In Aluminium

Horizontal hung ALU 2 m x 50 mm
 ALU angle 50 mm (radius of 15 cm)

Fastening rivets (Box of 250 units)
 Flexible fastening strip. Lineal metre

Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
40844	-	-	-
05815	-	-	-
09492	-	-	-
05819	-	-	-
09493	-	-	-
05816	-	-	-
05818	-	-	-
05820	-	-	-
05825	-	-	-

Fastening accessories for liners 75/100° for pool renovation



Vertical hung PVC 2 m
 Angle for vertical fastening (radius 15 cm)

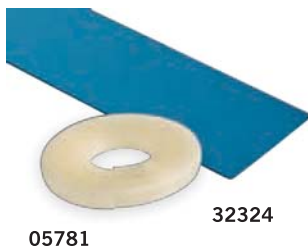
In Aluminium

Vertical hung ALU 2 m

Fastening rivets (Box of 250 units)
 Flexible fastening strip. Lineal metre

Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
05817	-	-	-
16194	-	-	-
16175	-	-	-
05820	-	-	-
05825	-	-	-

Accessories for liners 150/100°



Galvanized plate band (2 x 0.05 m)
 Applicator bottle (unit)
 Band (8 mm)
 Solvent THF (1 litre)
 Solvent THF (5 litres)
 Neoprene glue for PVC (5 Kg)

Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
32324	-	-	-
05780	-	-	-
05781	-	-	-
05778	-	-	-
05779	-	-	-
05784	-	-	-

Note: In the event of assembling a liner 150/100° by hung type fastening with an 8 mm strip, the accessories are the same as for liners 75/100° (see next page).

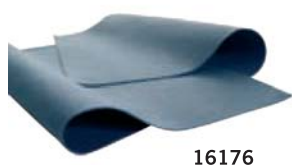
LINER ACCESSORIES

Adhesives for all types of liners



Adhesive for antibacterial protection (Tin 5 Kg)
 Komerling adhesive 1220 (Tube 125 ml)
 Komerling adhesive 1220 (Tin 750 ml)

Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
05822	-	-	-
06655	-	-	-
06656	-	-	-



Liner protection for 75/100° and 150/100°

Protection 300 gr/m² AB blue
 (roll 100 m²)

Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
16176	-	-	-

Rivets

Aluminum rivets.



Short 15.5 - 4.5 mm
 Long 25.5 - 4.5 mm

Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
12264	4	8.85	0.01
12265	3	8.0	0.01

Double PVC hem



Welded to the edge of the liner, allows the liner to attach to the pool shell, by using the corresponding profile.

Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
12184	250 m	9.0	0.036

Dissolvent



Dissolvent for welding the lining in cold.

Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
12249	1	1.0	0.01

STEPS UNITS

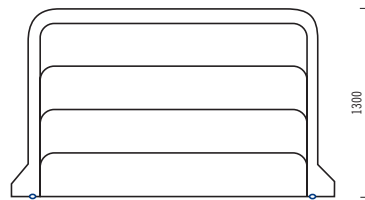
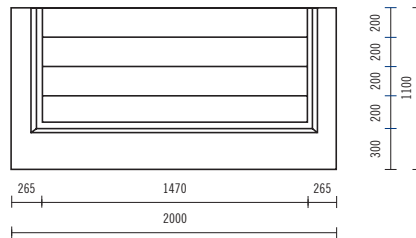
Straight 2 m model



Standard light blue, in material that resists ageing, UV rays and Chlorine agressions.

Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
25866	1	-	-

Code 25866



Roman end 2.00 m

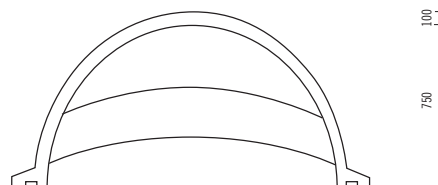
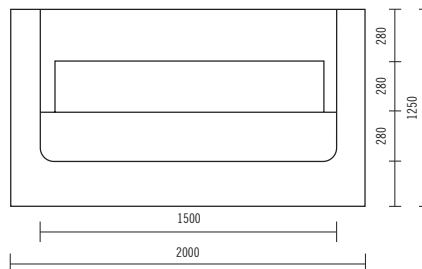


Standard light blue, in Polymer.

2.00 x 0.85 x 1.25 m

Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
28327	1	-	-

Code 28327



STEPS UNITS

Roman end 2.44 m

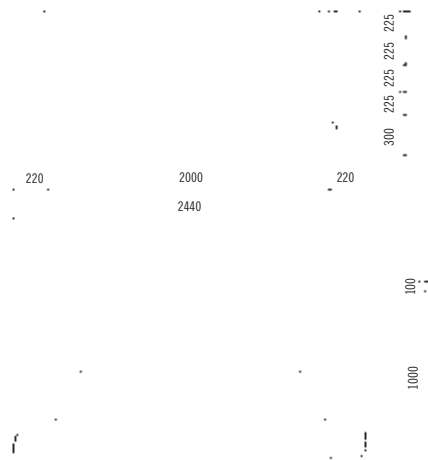


Standard light blue, in Polymer.

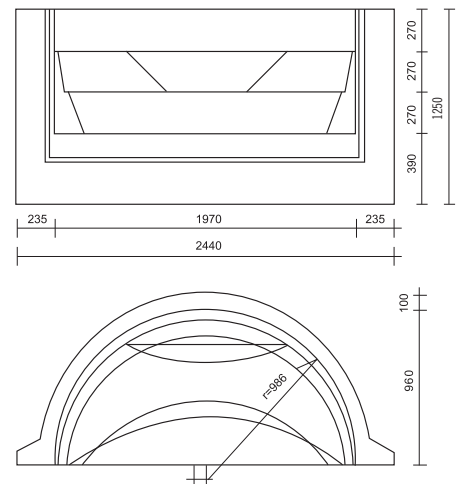
2.44 x 1.25 x 1.20 m
2.44 x 0.96 x 1.20 m

Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
05700	1	-	-
27126	1	-	-

Code 05700



Code 27126



Roman end 3.00 m

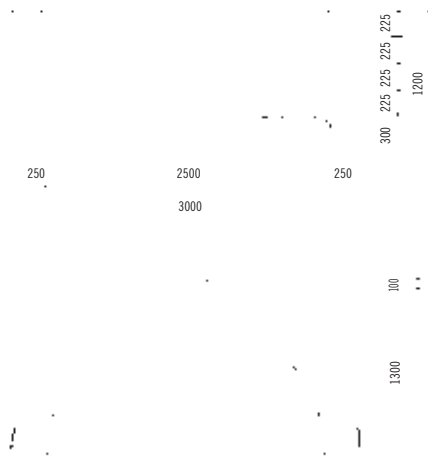
Standard light blue, in Polymer.

3.00 x 1.50 x 1.20 m
3.00 x 1.32 x 1.35 m

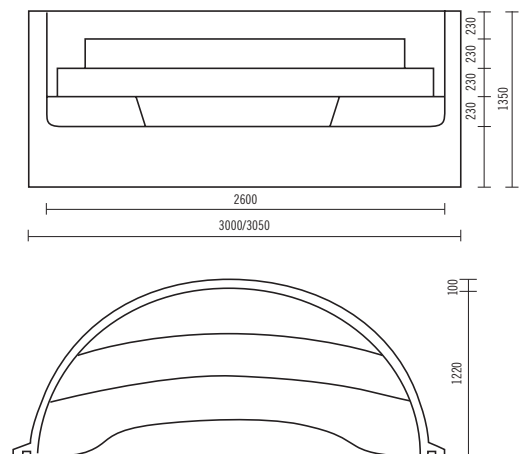
Code	Standard Packing	Standard Weight kg.	Standard Volume m ³
05799	1	-	-
27127	1	-	-

Other models and colours, on request

Code 05799



Code 27127



CONDITIONS FOR ACCEPTING AND ORDER

Order:

All orders or enquiries for modifying orders must be made in writing. For avoiding any delay, the client, at his own risk, must forward the supplier all the necessary liner measurements for executing the work. In case the information supplied by the client is insufficient, he will have to supply the missing information ahead of the manufacturing time.

Implicit data:

In cases certain information is not supplied in time, we shall consider the below mentioned data for the liner manufacture:

- * Vertical radii: 15 cm
- * Horizontal radii: max. 5 cm (only in pool basin). Holdingsystem, Hung system.
- * Horizontal measurements taken on the basin floor.
- * The depth measurement taken from under the coping stone till the wall touching the floor.
- * The diagonals will be measured from the corner angles and not along the curves.

To avoid certain misunderstandings, we suggest you taking the following precautions:

- For holding the liner:
- * Specify the type (Hung, Overlap or in V); We leave 15 cm of extra liner length in height for the Overlap holding system.
- For steps:
- * Check whether the angles between the step tread and rise (flat and vertical step surfaces) are really found in a straight line.
 - * Installation of a discharge nozzle in the middle of the first step is highly recommended for holding the liner in place.
 - * At least 30 cm of water should be left in the pool for maintaining the first step.
 - * Avoid designing staircases having more than 5 steps.
 - * For confirming dimensions, give the lengths of each step.
 - * Check the verticality of pool walls. In case of deficient plumbness, enquire about the order viability.
 - * Compound inclination safety ledges should be avoided on the liner.

Taking measurements:

- * Give the total length and width.
- * Pool depths.
- * Safety ledge width on each side.
- * Specify the peripheral size on each side.
- * Measurements of each corner, edge and inclination.
- * All dimensions should be indicated with horizontal and/or vertical measurements.

If angles are not straight:

- * Measure all the diagonals from one point.
- * Diagonals (hypotenuse) of right angles are not necessary, only the irregular angles other than the 90°.



Definition of arcs of circles:

- * Arcs of circles are defined by their radii.
- * If a radius cannot be defined, a radius gauge should be supplied or a triangulation to define it.
- * Ellipses are defined by gauges (or grid drawing with approximate 1 meter intervals)

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Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
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